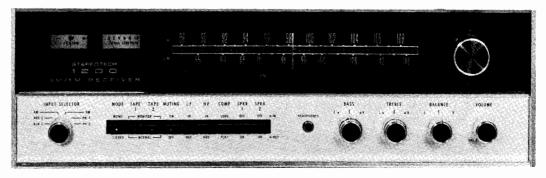


SERVICE INFORMATION



SERIAL NUMBER BK1001 AND ABOVE

PREAMPLIFIER AND POWER AMPLIFIER POWER OUTPUT

50 watts minimum sine wave continuous average power output, per channel, both channels operating into 8 ohms load impedance.

30 watts minimum sine wave continuous average power output, per channel, both channels operating into 16 ohms load impedance.

OUTPUT LOAD IMPEDANCE

8 ohms or 16 ohms

RATED POWER BAND

20 Hz to 20,000 Hz

TOTAL HARMONIC DISTORTION

0.2% maximum harmonic distortion at any power level from 250 milliwatts to rated power per channel across 8 ohms or 16 ohms; both channels operating.

INTERMODULATION DISTORTION

0.2% if instantaneous peak power output is twice rated power or less per channel with both channels operating for any combination of frequencies 20 Hz to 20,000 Hz

FREQUENCY RESPONSE

20 Hz to 20,000 ±1 dB

NOISE AND HUM

Power Amplifier: 95 dB below rated output

Tape 1 and Tape 2, Aux 1 and Aux 2: 89 dB below

rated output

Phono 1 and Phono 2: 70 dB below 10 mV input

RATINGS

DAMPING FACTOR

48 at 8 ohms output

96 at 16 ohms output

INPUT SENSITIVITY AND IMPEDANCE

Power Amplifier: 1.2 volts, 40,000 ohms Phono 1 and Phono 2: 3.0 mV, 47,000 ohms Tape 1 and Tape 2: 350 mV, 100,000 ohms Aux 1 and Aux 2: 350 mV, 100,000 ohms

TAPE OUTPUT

Preamp: 12 volts with rated input

Tuner: 1.2 volts at 100% FM modulation

Tape: 350 mV with rated input from low level inputs Phono: 1.2 volts with 10 mV input at 1000 Hz

TONE CONTROLS: Bass ±16 dB at 20 Hz. Treble ±16 dB at 20,000 Hz.

L.F. FILTER: Active filter with 12 dB per octave roll off below 50 Hz, down 18 dB at 20 Hz.

H.F. FILTER: Active filter with 12 dB per octave roll off above 7000 Hz, down 18 dB at 20,000 Hz.

AM TUNER

TUNING RANGE: 535 to 1605 kHz.

SENSITIVITY: 75 μ V IHF (external ant.)

SIGNAL TO NOISE RATIO: 50 dB minimum (IHF,) 60 dB at 100% modulation.

HARMONIC DISTORTION: Less than 1% (1HF.)

IMAGE REJECTION: Greater than 60 dB 535 to 1605 kHz.

FM TUNER

TUNING RANGE: 87.5 to 108.5 MHz.

USEABLE SENSITIVITY: 2.5 microvolts at 100% modulation (±75 kHz deviation) for 3% total noise and harmonic distortion (1HF).

SIGNAL TO NOISE RATIO: 70 dB below 100% modulation.

HARMONIC DISTORTION: Less than 0.5% mono and less than 0.7% stereo.

AUDIO FREQUENCY RESPONSE: ±1 dB 50 Hz to 10,000 Hz, ±2 dB 20 Hz to 15,000 Hz.

SELECTIVITY: 55 dB alternate channel minimum (IHF)

SPURIOUS REJECTION: 90 dB minimum (IHF)

IMAGE REJECTION: 70 dB minimum

STEREO SEPARATION: 35 dB minimum at 1,000 Hz

SCA FILTER: 60 dB minimum

GENERAL INFORMATION

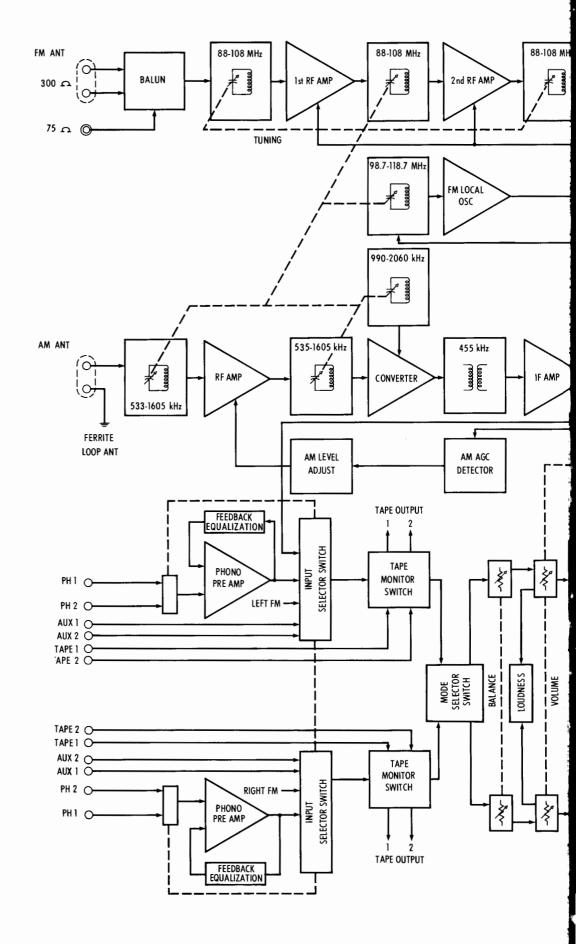
POWER REQUIREMENTS: 120 volts 50-60 Hz 50 watts at zero input, 320 watts rated output.

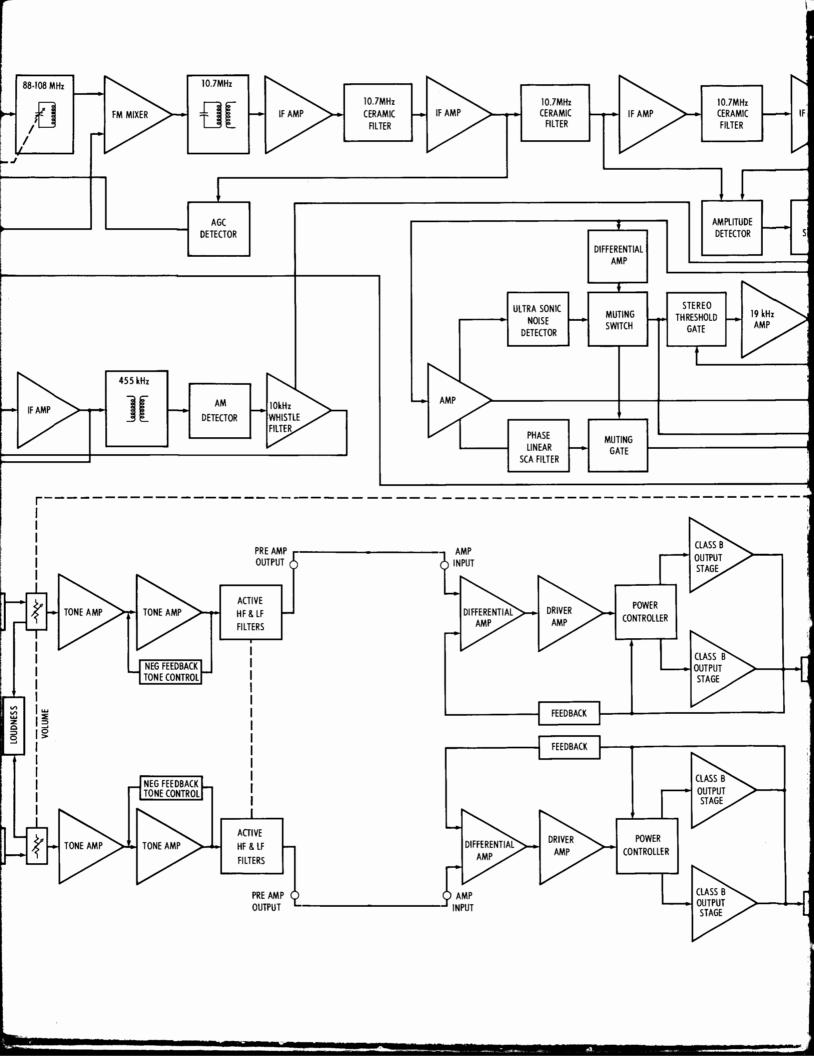
SEMICONDUCTOR COMPLEMENT: 68 Transistors; 4 FETs, 5 ICs, 39 Diodes.

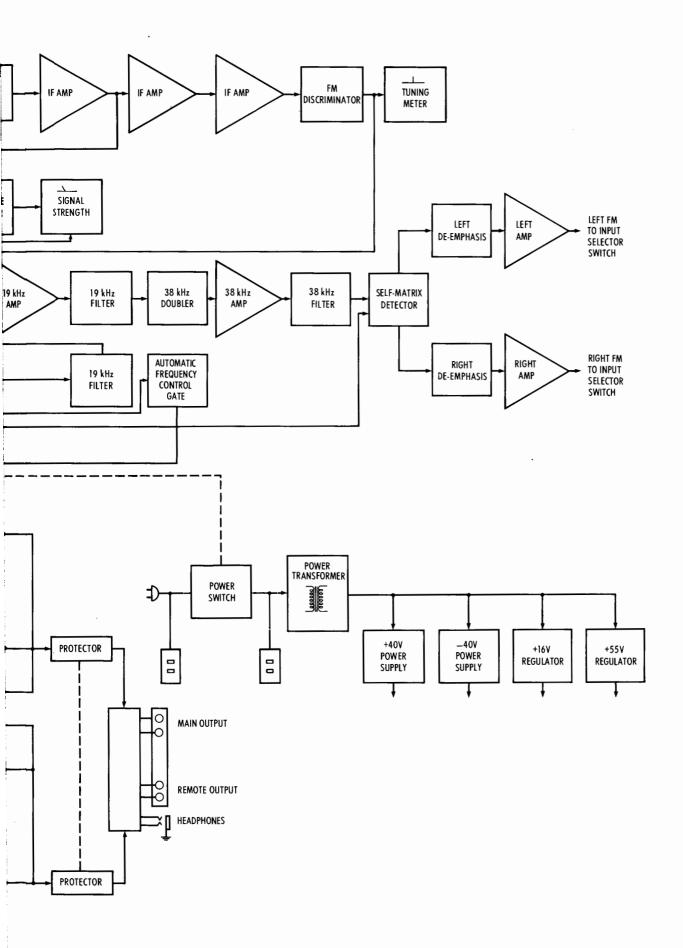
MECHANICAL INFORMATION

SIZE: Front panel measures 17-1/2 inches wide (444 mm), by 5-5/32 inches high (131 mm). Chassis measures 16-15/16 inches wide (430 mm), by 4-5/8 inches high (117 mm), by 15-7/8 inches deep (403 mm) plus antenna. Knob clearance required is 1-1/2 inches (31 mm) in front of the mounting panel.

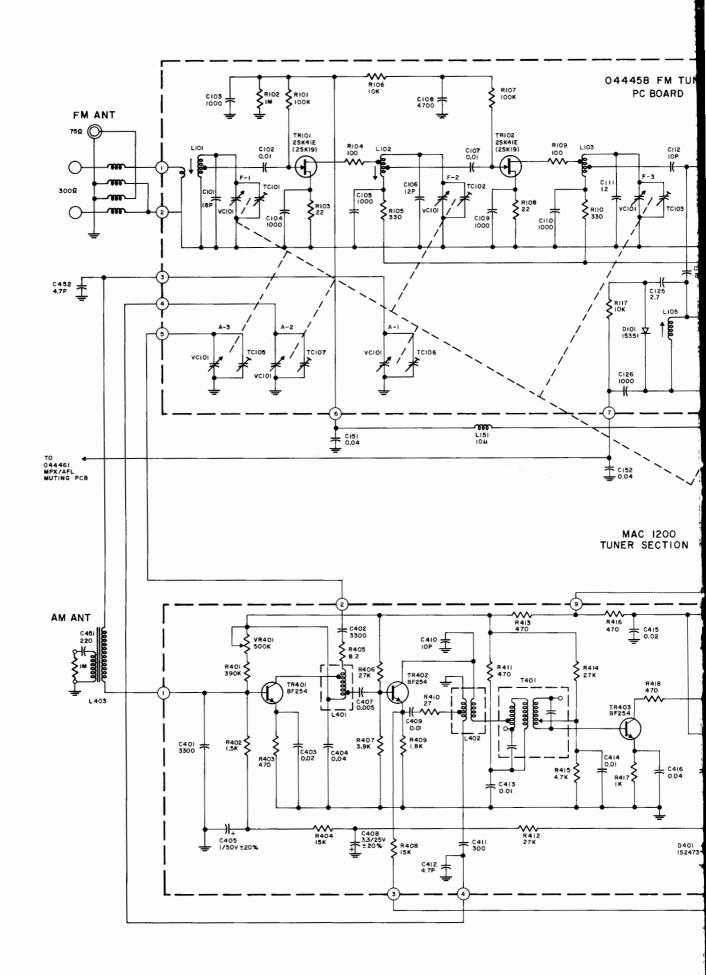
WEIGHT: 33 pounds (14.97 kg) net, 39 pounds (17.69 kg) in shipping cartons.

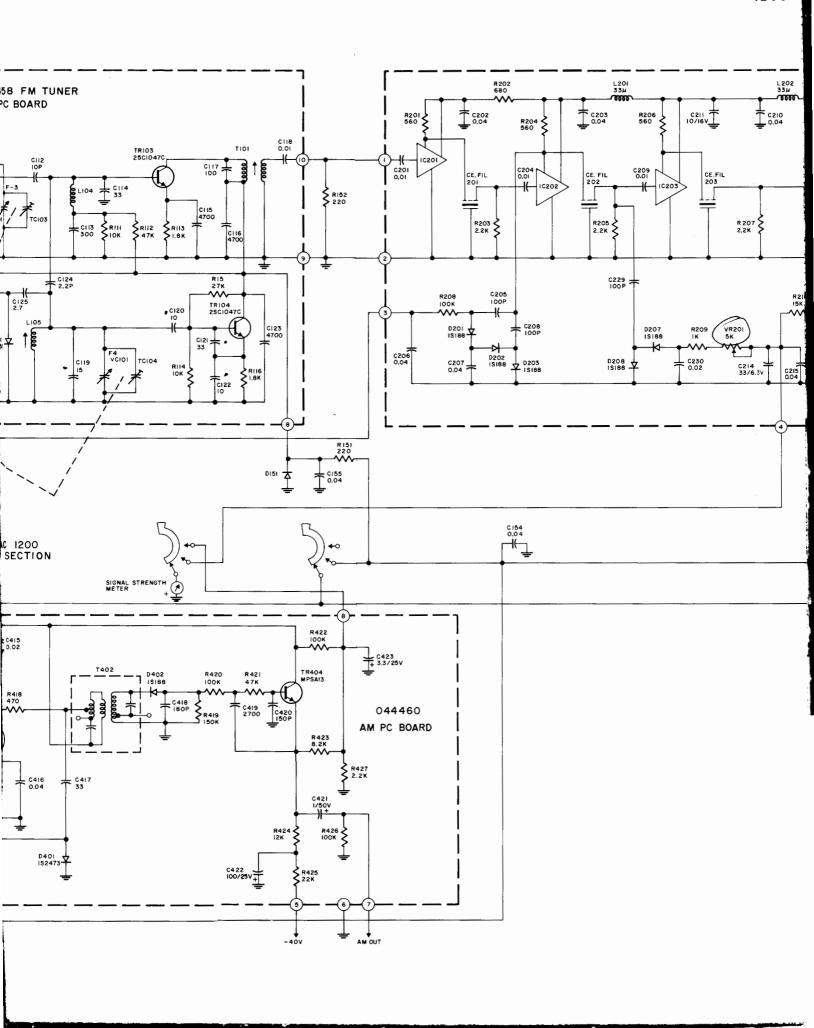


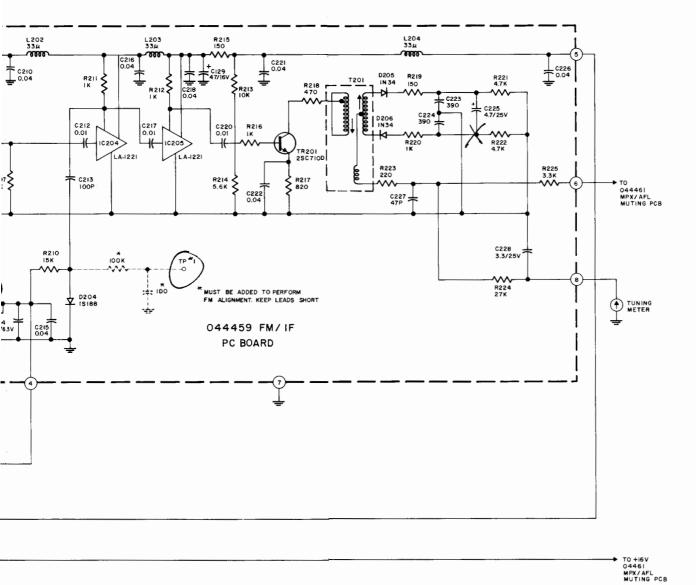


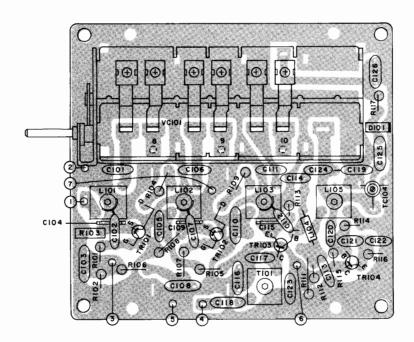


BLOCK DIAGRAM

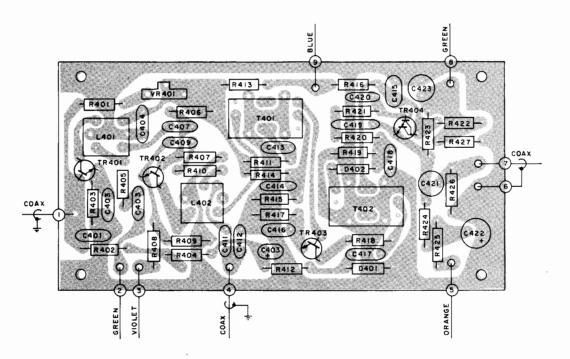


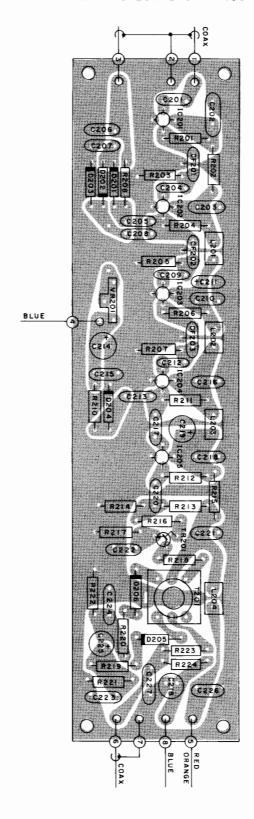




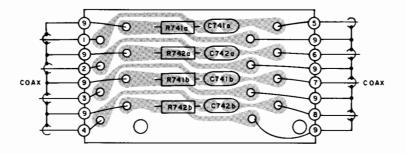


AM PC BOARD 044-460

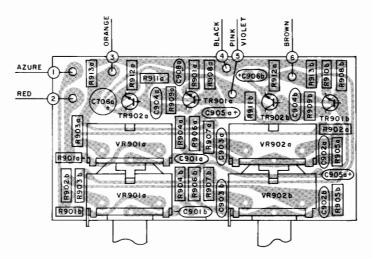




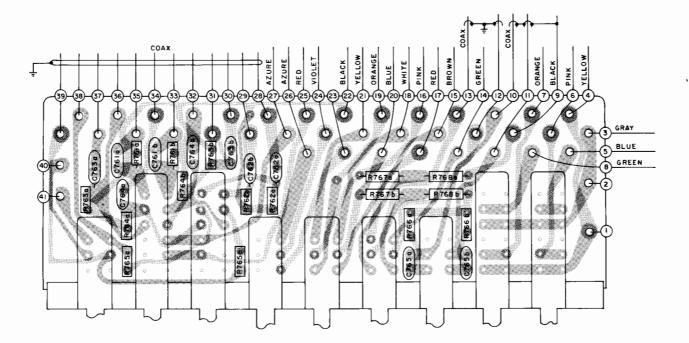
INPUT PC BOARD 044-467



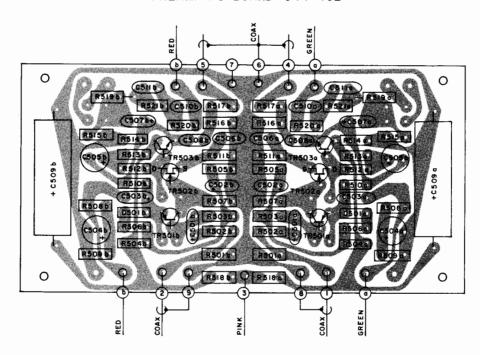
TONE CONTROL PC BOARD 044-476



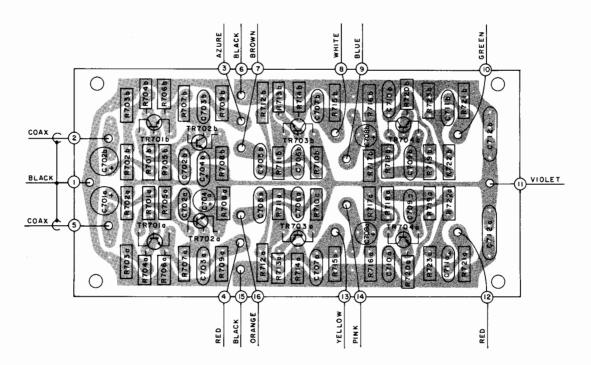
MODE SELECTOR PC BOARD 044-465

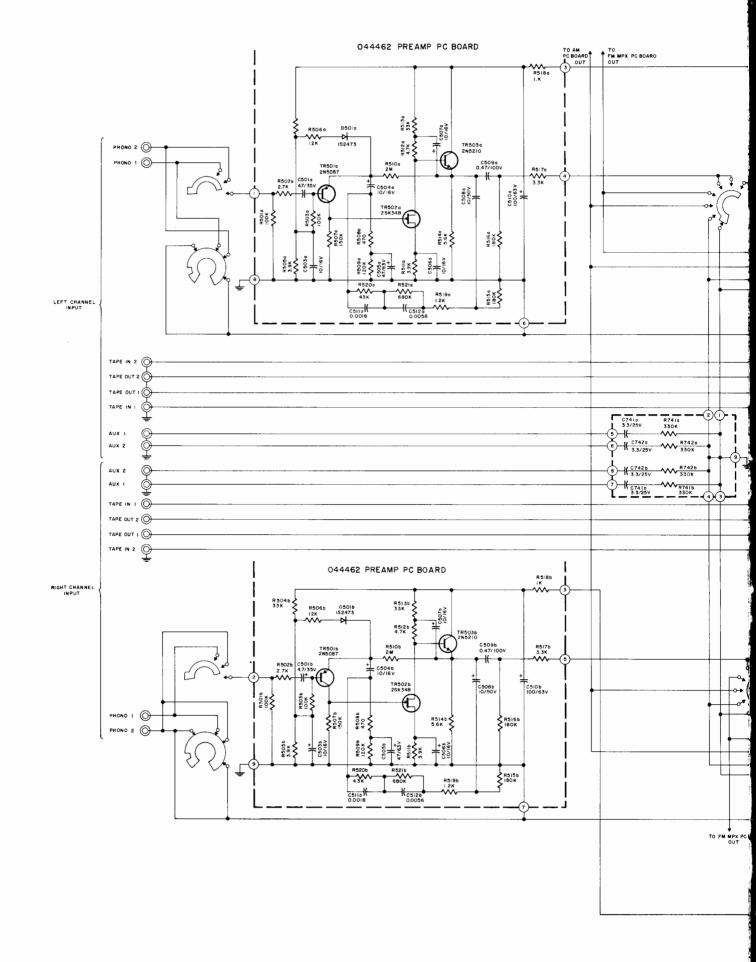


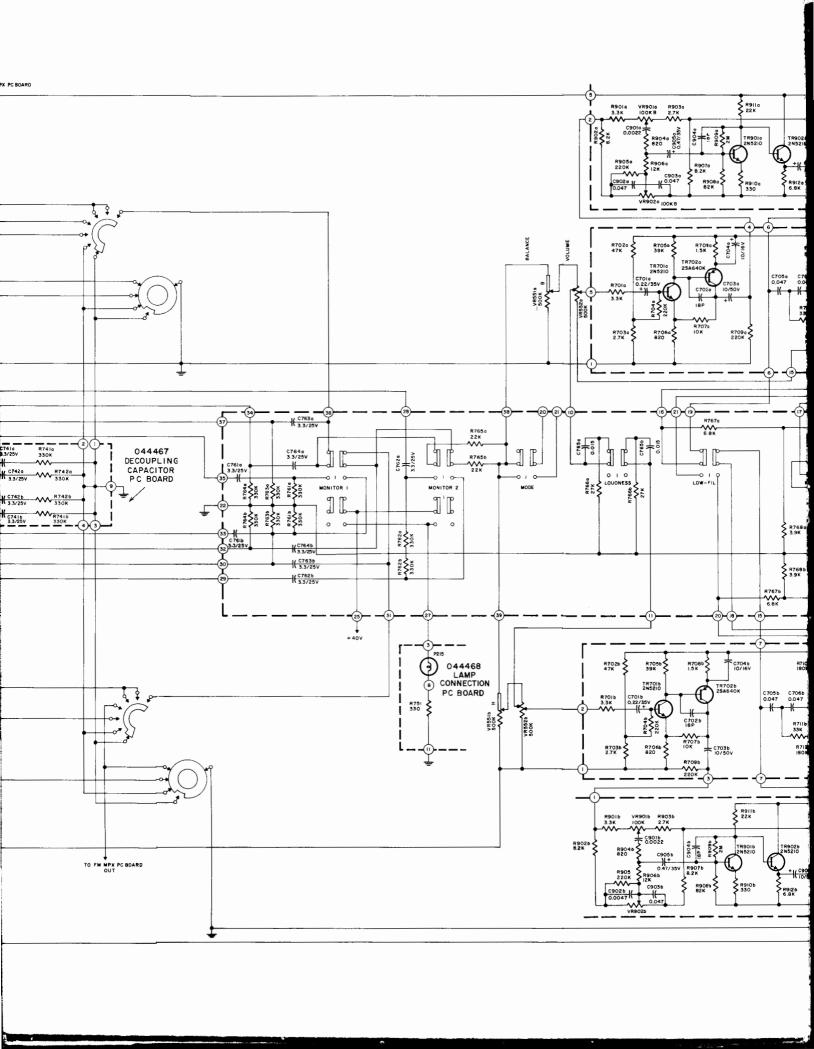
PREAMP PC BOARD 044-462

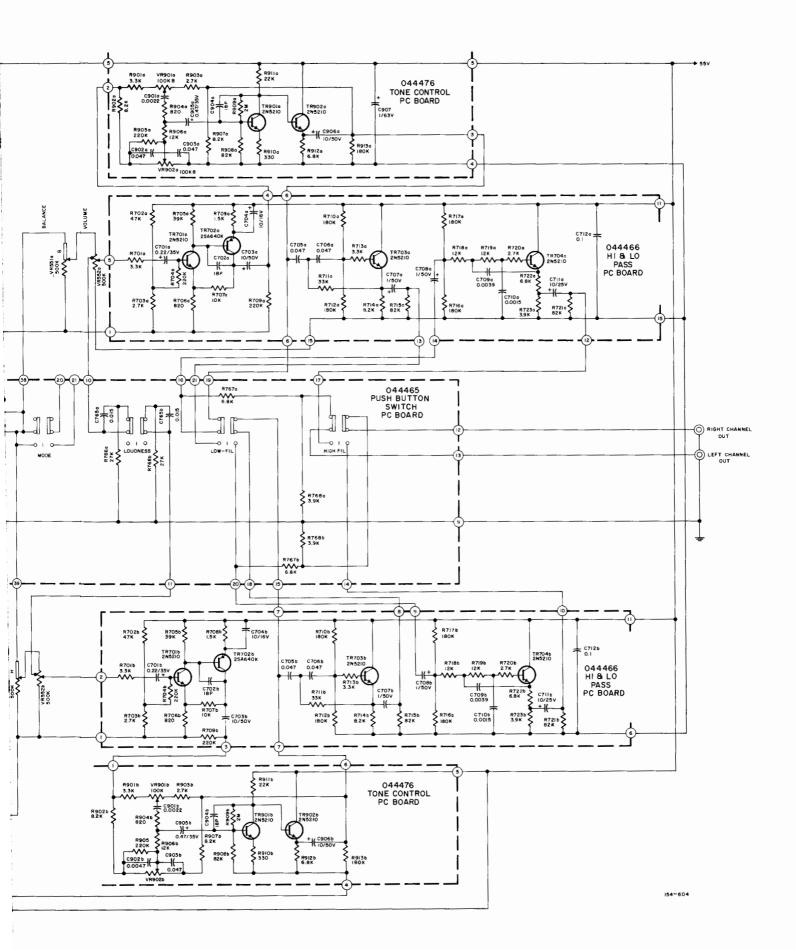


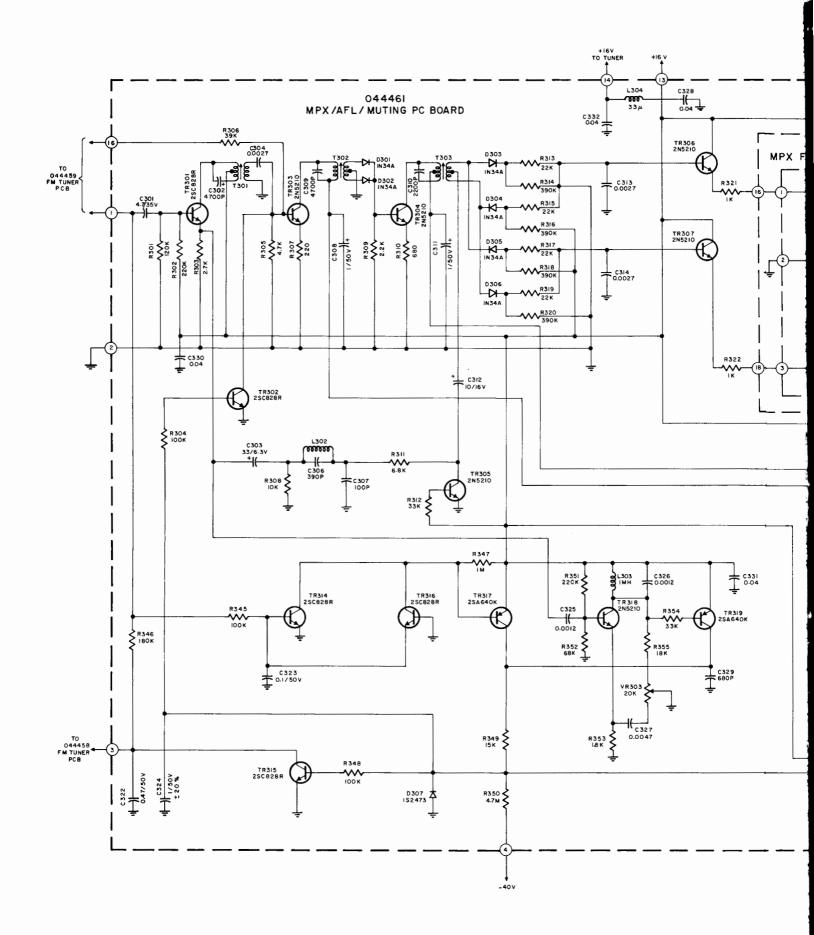
FILTER AMP PC BOARD 044-466

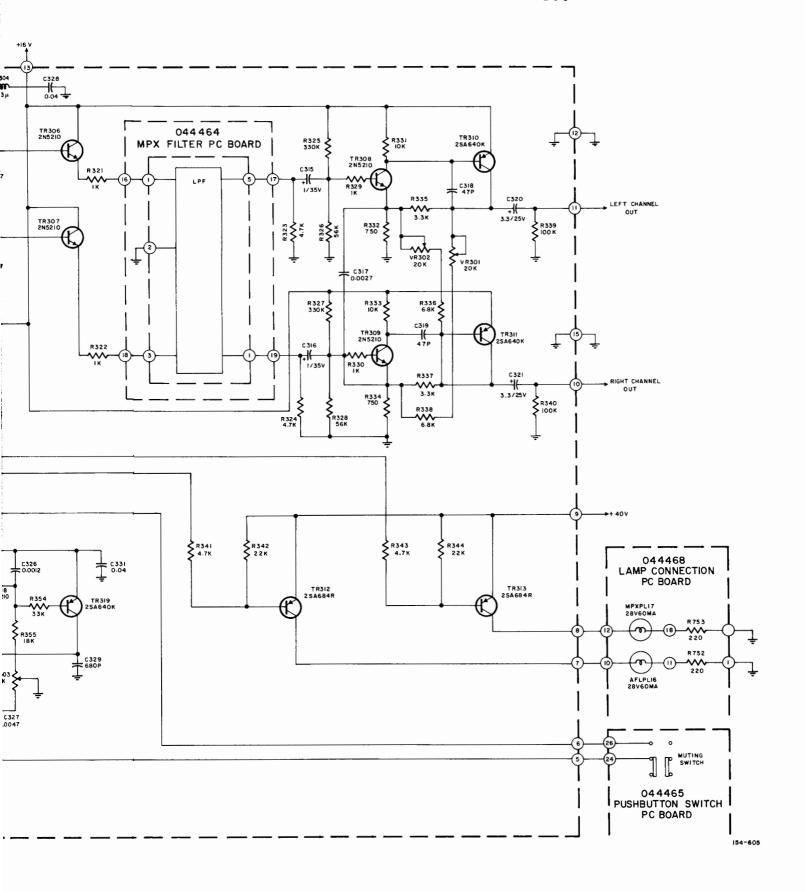




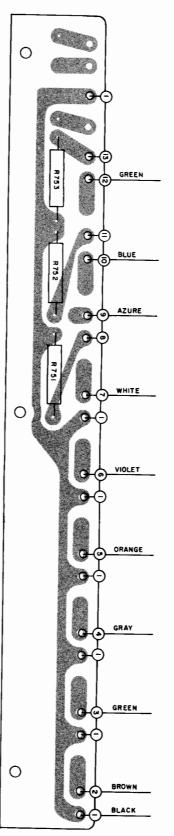




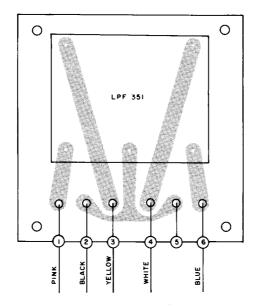




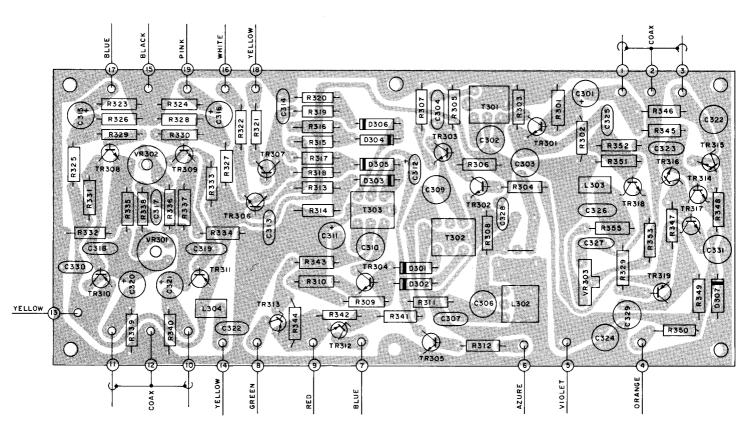
PL PC BOARD 044-468



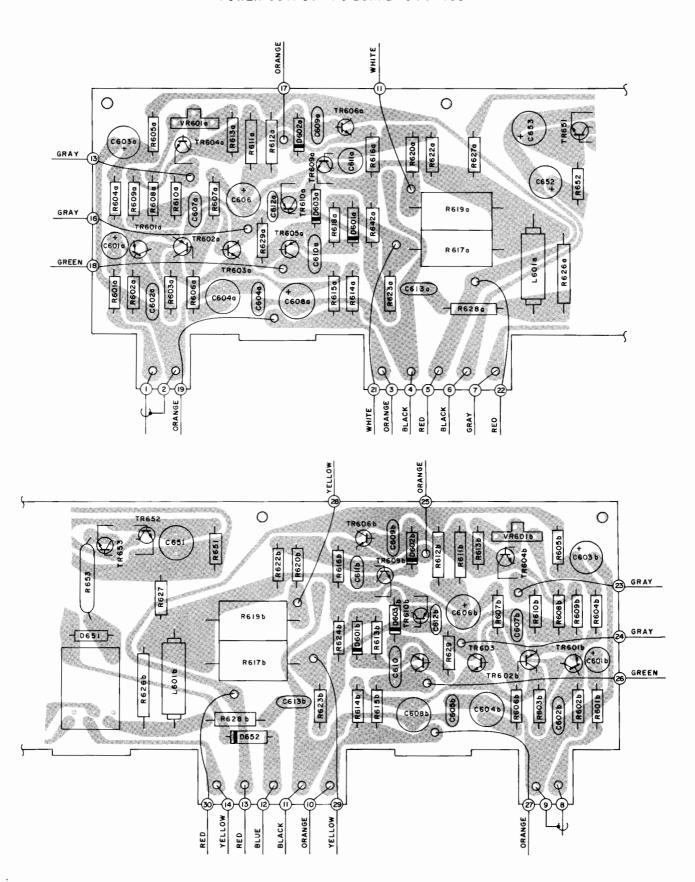
MPX FILTER PC BOARD 044-464

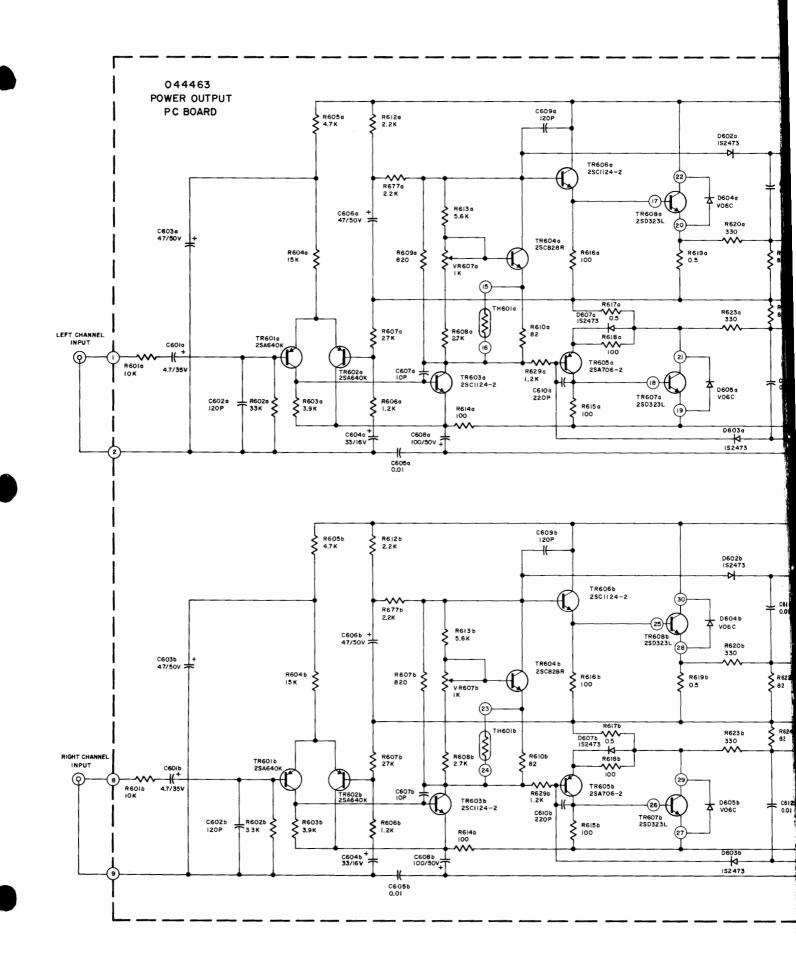


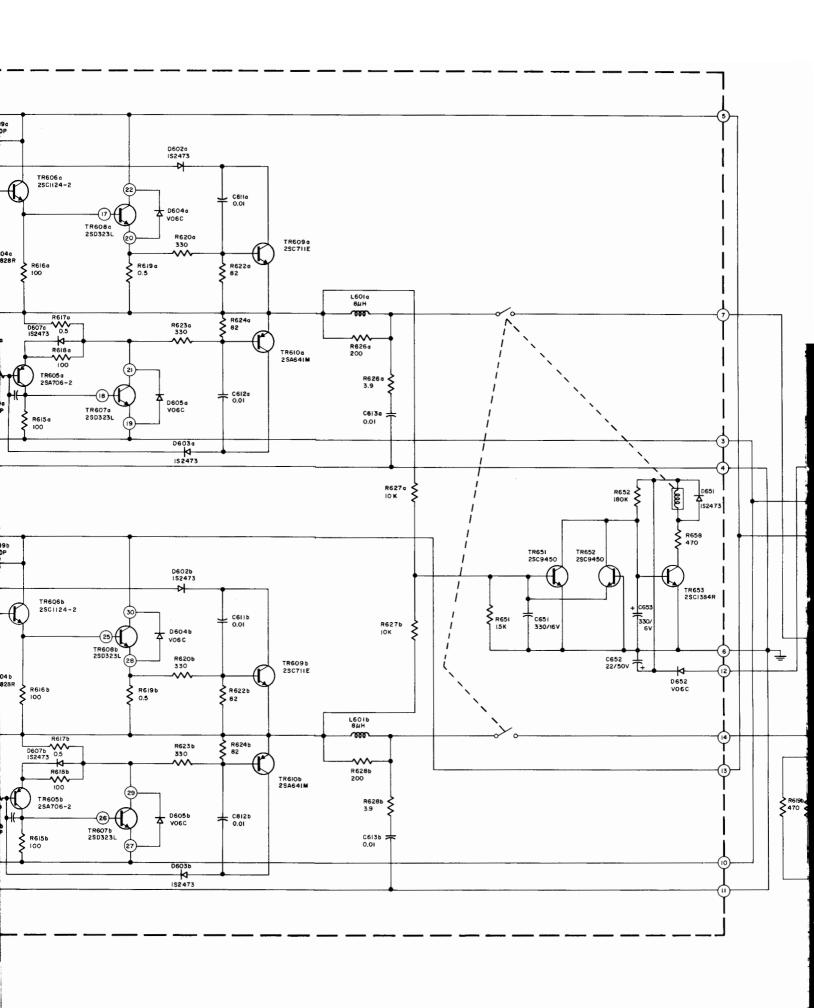
MPX PC BOARD 044-461

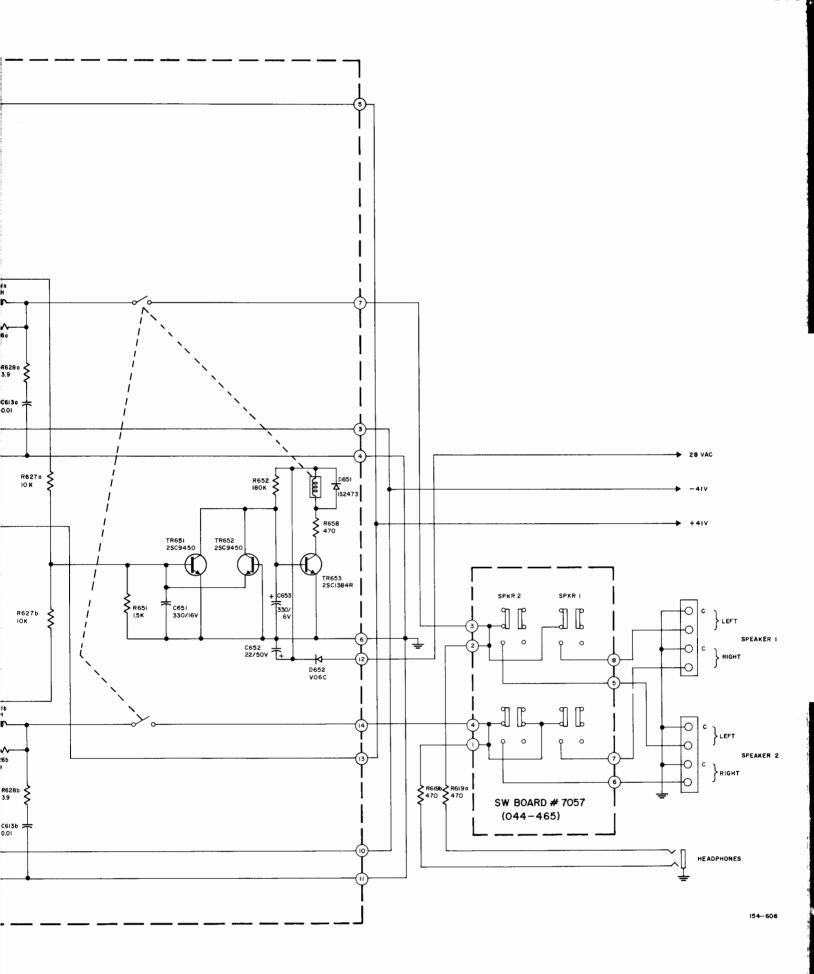


POWER OUTPUT PC BOARD 044-463

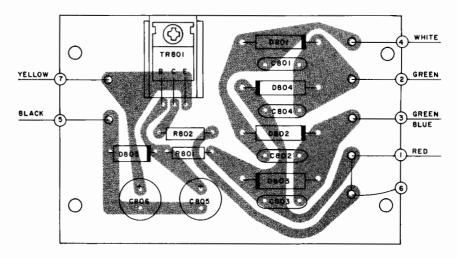




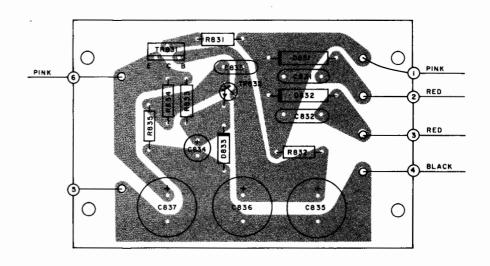


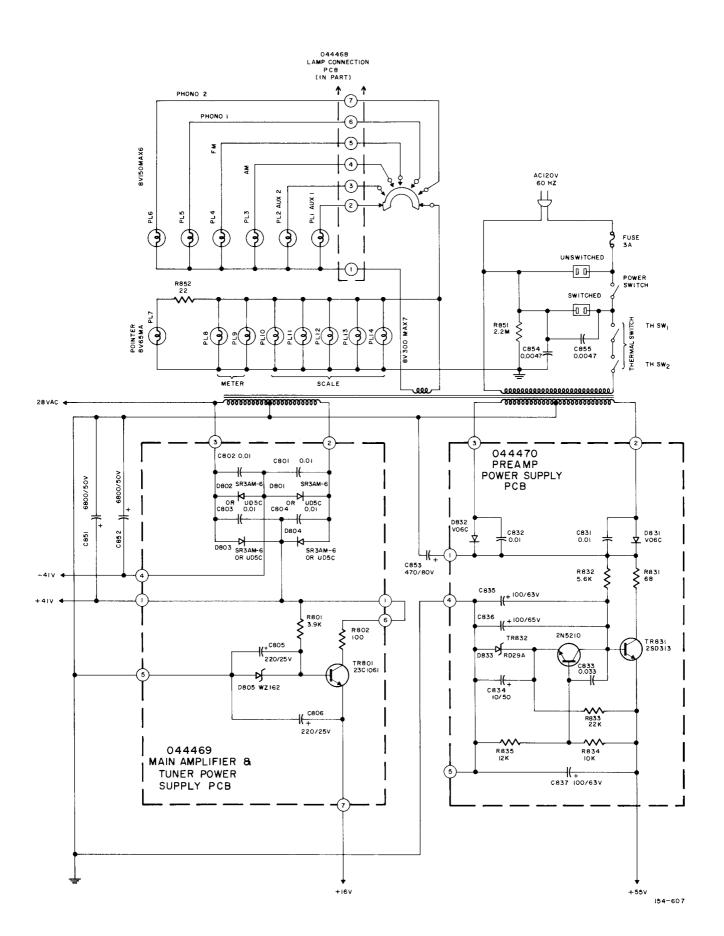


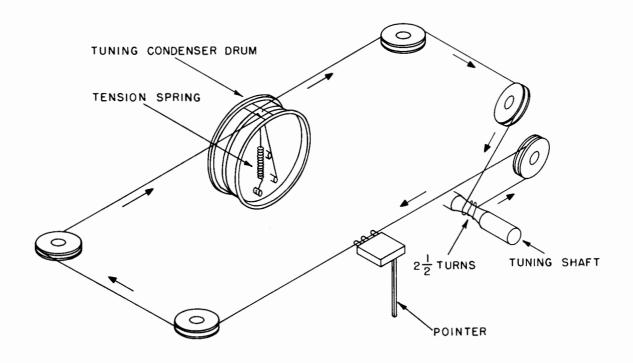
POWER SUPPLY PC BOARD 044-469



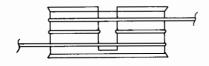
PREAMP POWER SUPPLY PC BOARD 044-470



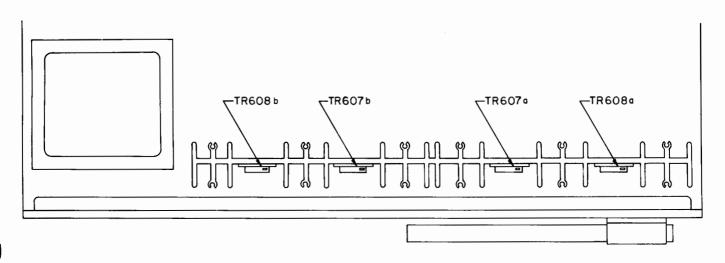




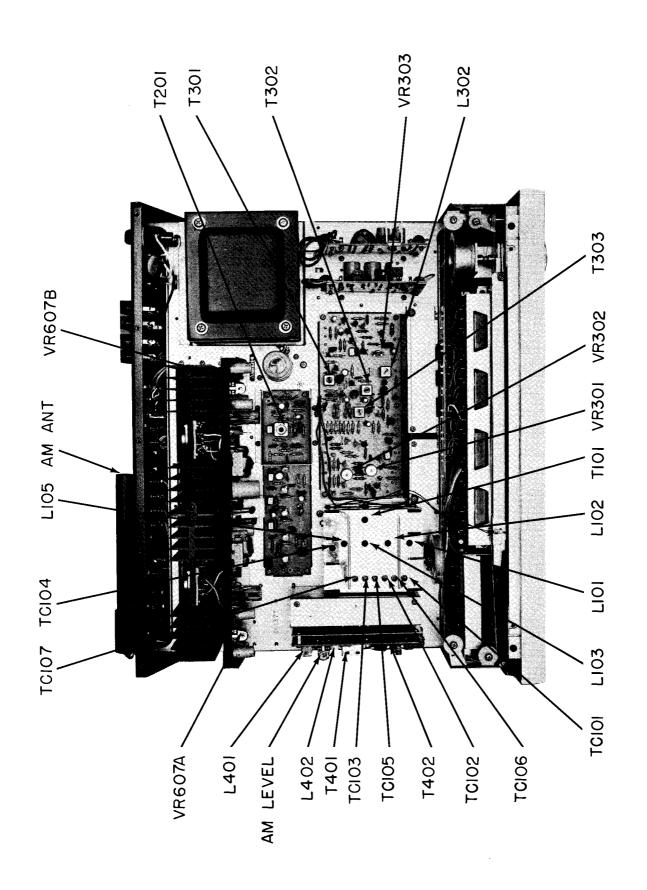
TUNING CONDENSER DRUM



DIAL STRINGING



LOCATION OF TRANSISTORS NOT ON PC BOARD



STEREOTECH 1200 ALIGNMENT INSTRUCTIONS

All Stereotech receivers are carefully aligned and tested at the factory using the finest available test equipment. All Stereotech receivers will meet their published specifications when shipped from the factory.

After extensive operation, or servicing, it may be desirable to realign the receiver circuits for best performance. The charts below give complete information on the circuit realignment procedure for the Stereotech 1200.

The test equipment listed (or its equivalent) is necessary to properly align a 1200. The accuracy of the alignment will be directly related to the accuracy and calibration of the test equipment used.

If the necessary test equipment is not available, alignment should not be attempted.

Alignment should be done in the following order: AM-FM-MPX.

TEST EQUIPMENT REQUIRED

- FM Signal Generator (Measurement 188 or Sound Technology 1000A).
- . VTVM (RCA WV96C).
- . Multiplex Generator (Radiometer SMG1) or Sound Technology 1000A.
- 4. Oscilloscope (Hewlett-Packard 120B or equivalent).
- Harmonic Distortion Analyzer (Hewlett-Packard 333A or equivalent).

WARNING The center frequency of the IF ceramic filters vary from 10.64MHz to 10.76MHz. A 10.7MHz crystal controlled generator should not be used for IF alignment.

AM ALIGNMENT

	TUNER		SIGNAL GENERATOR	OR	N.	INDICATOR			SS 24 25 25 25 25 25 25 25 25 25 25 25 25 25
STEP	SETTING	FREQ.	COUPLING	MODULATION	TYPE	CONNECTED TO	AUJUSI	E3 L13	
	Point of no inter- ference or signal	455кН2	Through ex- ternal .01µF capacitor to Pin 2 on AM circuit board	CW	Signal strength meter.	Normal.	Pri. & Sec. Maximum cores of possible T401 & T402 indication	Maximum possible indication	As the tuner output increases, attenuate generator output to keep meter indication below 4.
2	600kHz	600kHz	Through a 200pF capa- citor to ant- terminals.	Same	Same	Same	L402 (oscil- Same lator coil.)	Same	Same as Step].
က	1400kHz	1400kHz	Same	Same	Same	Same	TC107 (os- cillator trimmer)	Same	Repeat Steps 2 & 3 until dial calibration is accurate.
4	600kHz	600kHz	Same	Same	Same	Same	AM antenna rod & L401 (AM•RF)	Same	Same as Step I except adjust generator so that output signal is just above the noise level. Position antenna rod away from chassis and nearby objects.
5	1400kHz	1400kHz	Same	Same	Ѕаше	Same	TC106 (AM antenna trimmer) E TC105 (AM-	Same	Repeat Steps 4 & 5 until output is as high as possible.
	1000kHz	1000kHz	Same	30% @ 400Hz	Distor- tion Anglyzer	L or R output.		With a distori be performed:	With a distortion analyzer, the following measurements can be performed:

3. HFM sensitivity of 75 microvolts for 20dB signal to noise ratio. (This measurement is only possible in the absence of man-made interference, as fluorescent lamps, etc.)	
2. With a lmV input signal, harmonic distortion, whistle filter attenuation at 10kHz modulating frequency and signal to noise ratio may be measured.	9
i. With a lOmV input signal adjust "AM Level" control for 0.3 volts of audio output at tape-outputs. This will correspond to 1.0 volt audio output for a 100% modulated signal.	
Ton Dalvzer	

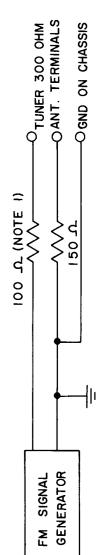
FM ALIGNMENT

	TUNER		SIGNAL GENERATOR	TOR	INI	INDICATOR			
STEP	DIAL	FREQ.	COUPLING	MODULATION	TYPE	CONNECTED TO	ADJUST	TEST LIMITS	KEMAKKS
_	Point of no inter- ference or signal	Noise from mixer.	None	None	VTVM	Terminal 6 on 1F	Top (Sec.) Core of T201	Adjust for zero volt.	Turn muting off for alignment tests
2	Same	Same	Same	Same	Same	Junction of R222 & C225	Bottom (Pri.) core of T201	Maximum possible negative voltage.	If a distortion analyzer is available, omit this step. Adjust T102 Primary after Step 5. At that time, use a lmV signal from an FM generator, modulate 100% @ 4400Hz. Adjust primary of T102 for minimum distortion. Should be less than 0.3%.
က	105мН2	105MHz	300% antenna terminals w/* matching net- work.	100% @ 400Hz•	VTVM conne and oscill nected to output	VIVM connected to TP#1 and oscilloscope con- nected to L or R tape output	Oscillator trimmer TC104	Maximum negative voltage at TP#1	As TP#1 voltage increases, reduce output of signal generator to keep TP#1 voltage at a low level (less than75 volt). Add components (100k, 100pF as indicated on Schematic to form TP#1.
4	90MHz	90МН́z	Same	Same	Same		Oscillator Coil L105	Same	Repeat Steps 3 and 4 until dial calibration is accurate.
2	Same	Same	Same	FM ±300kHz Sweep at 60Hz rate.	Oscillo- scope.	TP#1	Top (Pri.) and Bottom (Sec.) cores of T101.	Optimum symmetry about IF center.	Connect scope for overall response display. Hold the signal generator output to a low level such that the DC voltage at TP #l is less than =0.5 volt.
9	105MHz	105MHz	Same	100% @ 400Hz•	VTVM connered and scope	VIVM connected to TP #1 and scope connected to L or R tape output.	Mixer, RF-2, TC101, RF-1, TC102 trimmers TC103	Maximum negative voltage at TP #1.	Same as Step 3.
7	90мн2	90МН2	Same	Same	Same		Mixer, RF-2, and RF-1; coils L101, 102,103	Same	Same as Step 3. Then repeat Steps 6 and 7 until TP#1 voltage is as high as possible for the least signal input at both alignment frequencies.
9	Same	Same	Same	Same	VTVM conne	connected to TP#1 harmonic distor-			This step is an overall sensitivity check. Reduce input signal to the point where

		,							T
7	90мн2	90MHz Same	Same	Same.	Same	Mixer, RF-2, and RF-1; coils L101, 102,103	Same	Same as Step 3. Then repeat Steps 6 and 7 until TP#1 voltage is as high as possible for the least signal input at both alignment frequencies.	Т
∞	Same	Same	Same	Same	VTVM connected to TP#1 and a harmonic distor-tion analyzer to L or R output.			This step is an overall sensitivity check. Reduce input signal to the point where total noise and distortion reads 3% (*30dB). The input signal will then be the usable sensitivity and should be less than 2.5 μ V.	

MULTIPLEX DECODER ALIGNMENT

	TUNER		SIGNAL GENERATOR	TOR	ON	INDICATOR				
STEP	DIAL	FREQ.	COUPLING	MODULATION	TYPE	CONNECTED TO	ADJUST	TEST LIMITS	REMARKS	
	100МН2	100MHz	300 Ω antenna terminals w/approx. 1000 microvolts signal w/* matching network.	75k∺z devia- tion @ 67kHz.	AC-VTVM or oscil: loscope w/very low cap. probe.	Collector TR305 MPX. PC Board.	L302 (SCA adj.)	Minimum output	Adjust for minimum 67kHz output.	
2	Same	Same	Same	l9kHz stereo pilot.	Ѕате	Collector TR303 MPX PC Board	T301 (19kHz phase adj.) £ T302 (19 kHz trans• former.)	Adjust for maximum AC voltage.	Decrease pilot level, if necessary, so that 19kHz circuits do not limit or saturate.	
3	Same	Same	Same	Same	Ѕате	Collector TR304	T303	Adj. for maximum AC voltage.	Decrease pilot level so that 19kHz and 38kHz circuits do not limit. Mode switch must be in stereo position.	
4	Ѕате	Same	Same	lkHz (100% modulation) L or R only, pilot level normal and on.	AC-VTVM	jack.	First T301 Then VR301 & VR302	35dB separation or more.	Set VR301 & VR302 at maximum resistance. Modualte left channel and measure right channel output. Adjust tuning core (1301) for minimum right channel output (maximum separation). Then, adjust VR301 for maximum separation. Reverse channels then adjust VR302.	
5	Ѕате	Same	Input 15µF	Same	Same	Same	VR303		Adjust stereo threshold for auto switchover at 15µV input.	



Note 1: If signal generator has other than 50 ohm internal impedance, use a resistor of 150 ohms less internal generator impedance.

200					
	REPLACEMENT PARTS			TRANSISTORS	
			TR101,102	Transistor	132-107
			TR103,104	Transistor	132-108
Replacemen	nt parts may be obtained wher JMBER from:	ordered	TR201	Transistor	132-109
DY PART NO			TR301,302	Transistor	132-112
	Stereo Technology Division Box A Conklin, New York 13748	į	TR303,304	Transistor	132-113
	CONKITH, New YORK 13/40		TR305,306	Transistor	132-113
			TR307,308	Transistor	132-113
	CAPACITORS		TR309	Transistor	132-113
Symbol		Part	TR310,311	Transistor	132-114
Number	Description	Number	TR312,313	Transistor	132-115
C851,852	Elect 6800µF 50V	066-207	TR314,315	Transistor	132-112
	DIODES		TR316	Transistor	132-112
			TR317	Transistor	132-114
0101	Si. Signal diode	070-067	TR319	Transistor	132-114
0151	Si. Signal diode	070-068	TR401,402	Transistor	132-110
0201,202	Si. Signal diode	070-068	TR403	Transistor	132-110
0203,204	Si. Signal diode	070-068	TR404	Transistor	132-111
D 2 05,206	Ge. Signal diode	070-069	TR50la,b	Transistor	132-117
D 2 07,208	Si. Signal diode	070-068	TR502a,b	Transistor	132-118
0301,302	Ge. Signal diode	070-069	TR503a,b	Transistor	132-113
0303,304	Ge. Signal diode	070-069	TR60la,b	Transistor	132-114
D305,306	Ge. Signal diode	070-069	TR602a,b	Transistor	132-114
D307	Si. Signal diode	070-070	TR603a,b	Transistor	132-119
D401	Si. Siganl diode	070-070	TR604a,b	Transistor	132-112
D501a,b	Si. Signal diode	070-070	TR605a,b	Transistor	132-120
D602a,b	Si. Signal diode	070-070	TR606a,b	Transistor	132-119
D603a,b	Si. Signal diode	070-070	TR607a,b	Transistor	132-121
0604a,b	Si. Signal diode	070-071	TR608a,b	Transistor	132-121
0605a,b	Si. Signal diode	070-071	TR609a,b	Transistor	132-122
0607a,b	Si. Signal diode	070-070	TR610a,b	Transistor	132-123
0651	Si. Signal diode	070-070	TR651,652	Transistor	132-124
0652	Si. Signal diode	070-071	TR653	Transistor	132-125
0801,802	Si. Signal diode	070-072	TR70la,b	Transistor	132-113
D803,804	Si. Signal diode	070-072	TR702a,b	Transistor	132-114
0805	Zener diode	070-074	TR703a,b	Transistor	132-113
0830	Zener diode	070-073	TR704a,b	Transistor	132-113
0831,832	Si. Signal diode	070-071	TR801	Transistor	132-126
	CHOKES & COILS		TR831	Transistor	132-127
L 302	67kHz Filter coil	122-146	TR832	Transistor	132-113
L303	Muting filter coil	122-147	TR90la,b	Transistor	132-113
L401	AM RF coil	122-144	TR902a,b	Transistor	132-113
L402	AM Osc coil	122-145		FUSES	
L403	AM Antenna	122-143	F801	Fuse 3A	089 - 026

VR551 VR552 VR901 VR902

TH601

S TH SW

T101 T201 T301 T302 T303 T401,

M201 M401

1C201 1C203 1C205

CE. F.
CE. F.
LPF

PL1,2*
PL3,4
PL5,6
PL7
PL8,9

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		POTENTIOMETERS	
	VR551	Balance control	134-266
	VR552	Volume control	134-267
	VR901	Treble control	134-269
	VR902	Bass control	134-268
		RESISTORS	
		NESTS TO NO	
	TH60la,b	Thermistor	144-043
		SWITCHES	
	S	Input selector	146-164
	S	Pushbutton switch	150-014
	TH SW1,2	Thermo cut-out	153-016
		TRANSFORMERS	
		TRANSFORMERS	
	T101	FM IF transformer	162-063
	T201	FM IF transformer	162-064
	Т301	19kHz transformer	162-066
	Т 302	19kHz transformer	162-067
	Т303	38kHz transformer	162-068
	T401,402	AM IF transformer	162-065
	Т801	Power transformer	159-107
		METERS	
	M201	Tuning meter	124-023
	M401	Signal strength meter	124-024
		INTEGRATED CIRCUITS	
	10201,202	Integrated circuit	133-009
	10203,204	Integrated circuit	133-009
i	10205	Integrated circuit	133-009
		FILTERS	
	CE. FIL201	FM IF Filter	180-013
	CE. FIL202	FM IF Filter	180-013
	CE. FIL203	FM IF Filter	180-013
	LPF	MPX Filter	180-014
Ì		LAMPS	
	PL1,2	Pushbutton lamp	058-050
	PL3,4	Pushbutton lamp	058-050
	PL5,6	Pushbutton lamp	058-050
	PL7	Pointer lamp	058-051
	PL8,9	Meter lamp	058-049
- 1			

32**-**107 32-108 32**-**109 32-112 32**-**113 82**-**113 32-113 32**-**113 32-114 32**-**115 32-112 32-112 32-114 32-114 32-110 32-110 32-111 32-117 **3**2**-**118 **3**2**-**113 **3**2-114 32-114 **32-1**19 32-112 **32-**120 32-119 **32-**121 **3**2**-**121 **3**2**-**122 2-123 **3**2**-**124 **32-**125 2-113 2**-**114 2**-**113 2-113 2-126 **2-**127 2-113 2-113 2-113

9**-**026

	, "	
PL10,11	Panel lamp	058-049
PL12,13	Panel lamp	058-049
PL14	Panel lamp	058-049
PL15	MON lamp	058-048
PL16	AFL lamp	058-048
PL17	MPX lamp	058-048
	FRONT PANEL & TRIM	
	Dial glass	017 - 195
	Front panel glass	017-196
	Front panel extrusion	018-165
	Left end cap	018-166
	Right end cap	018-167
	Tuning knob	090-132
	Volume knob	090-132
	Balance knob	090-132
	Input Sel. knob	090-132
	Bass knob front	090-134
	Bass knob rear	090-135
	Treble knob front	090-134
	Treble knob rear	090-135
	Pushbutton w/blu dot	090-136
	Pushbutton w/orn dot	090-137
	Pushbutton w/yel dot	090-138
	Pushbutton w/grn dot	090-139
	Pushbutton w/red dot	090-140
	Pushbutton w/wht dot	090-141
I	MISCELLANEOUS ITEMS	
	Plastic feet	017-197
	Shipping carton	044 - 567
	Owners manual	038-718
	Mounting instructions	038-719
	Pointer w/lamp	044-568
	Jumper	015 - 006
	Top cover	002-573
	Hardware package	044-569

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